

BOOK REVIEWS

Brown Forest Soils of Hungary. 1971. P. Stefanovits. Akadémiai Kiadó-Budapest. 261 pp. Price not given.

Over 60 percent of Hungary is covered with forest soils and 35 percent of the country is considered to have some variety of Brown Forest soils. The author presents a detailed account of the concept of Brown Forest soil since the term Braunerde was first introduced. Major processes occurring in Brown Forest soils are considered to be a) humus formation, b) leaching and accumulation, c) formation and alteration of clay, d) translocation of clay, e) formation of Kovárvány (lamellae of clay separated by bands of unmodified soil material in the B horizon or deeper), f) oxidation and reduction, and g) acidification.

The author lists the following varieties of Brown Forest soils: a) Brown Forest soils with residual carbonate, b) Chernozem-Brown Forest soils, c) Braunerden, d) Lessivated Brown Forest soils, e) Podsolized Brown Forest soils, f) Pseudogley Brown Forest soils, g) Kovárvány Brown Forest soils and h) Acid, nonpodsolized Brown Forest soils. Small scale maps show the general distribution of the various Brown Forest soils in Hungary. A number of soil profiles, thin sections of soil fabric and landscapes—all in color—add greatly to the presentation. Detailed profile descriptions from 36 sites are listed. There, 110 pages of physical and chemical data are listed on a soil profile basis.

This volume is a major contribution to soil science because it draws together the European literature on the problem of Brown Forest soils. The author has done an exemplary piece of work in presenting a classification scheme for Brown Forest soils and describing their evolutionary pathways. The volume should find wide acceptance.

Optimizing the Soil Physical Environment Toward Greater Crop Yields. Daniel Hillel, ed.

This book is a monograph covering a portion of the Proceedings of the International Sympos-

ium on Soil Water Physics and Technology, held at the Hebrew University Faculty of Agriculture in Rehovot, Israel, 1971, sponsored jointly by the International Soil Science Society and the Israel Society of Soil Science. The purpose of this part of the proceedings was "... to bring together some of the most active researchers in applied soil physics in an attempt to trigger a common effort to summarize and evaluate the current status and trends of research in this vital field." Though such a beginning would seem to suggest a mixing of international viewpoints, seven of the 13 chapters were written by scientists from the United States and four by scientists from Israel, some of whom were trained in U. S. graduate schools.

The prologue and 13 chapters may be classified in two general groups. One group contains editorial-type material promoting the writers' individual viewpoints on specific subjects concerning agricultural research and soil physics. These sections may or may not be stimulating to the reader, depending upon his or her own personal philosophy. The remaining chapters tend more to summarize the "state of the art" of some specific problems, providing adequate references for more detailed study. Included are discussions on irrigation efficiency and scheduling, salinity control, light control, organic chemical additives for promoting desirable physical characteristics, and the effects of water, aeration, temperature, and other soil physical conditions on root growth and plant nutrition.

While the material presented in this volume is not really unique enough to stand as required reading for all agricultural scientists, it does provide a useful source of information on the specific subjects mentioned above.

The copy I received for review did not contain pages 75 to 106, but included duplicate pages of 107 through 138. Though I have seen other copies which are complete, this condition might be worth checking when buying the book.

JOHN W. CARY
USDA, Kimberly, Idaho